

ABSTRACT OF THE DISCLOSURE

The disclosure teaches design features that can be used alone or in combination to facilitate faster, more uniform flow of glass through the apparatus and allows the thickness of the sheet to be adjusted. An overflow device is provided at the far end of the trough and is used in conjunction with tilting of the apparatus to expand the range of glass flow rate and glass viscosity for which this invention will produce satisfactory product. The forming apparatus can be made with non-linear weirs and the trough bottom to provide a greater range of flow rates. The glass flow in the inflow pipe can be modulated or a contoured trough cross-section used to provide more uniform time dependent flow for forming the sheet. The forming apparatus can include an orifice on top of the trough and glass can be moved through the apparatus using pressure. Additional orifices can be provided on the bottom or sides to allow greater variability in sheet thickness. Irregularities in the thickness of the formed glass sheet may be corrected by selective heating of the glass in the trough, heating the weirs or orifice, and selective heating of the glass flowing down the outside of the apparatus. A flow control plug can be inserted into the trough, such that flow dynamics can be altered during hot operation by insertion, removal or position adjustment of the flow control plug.

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